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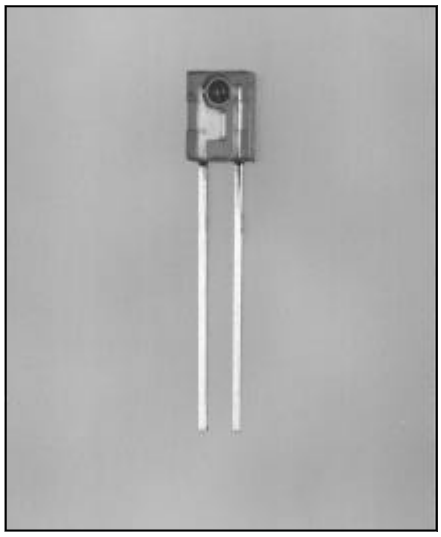
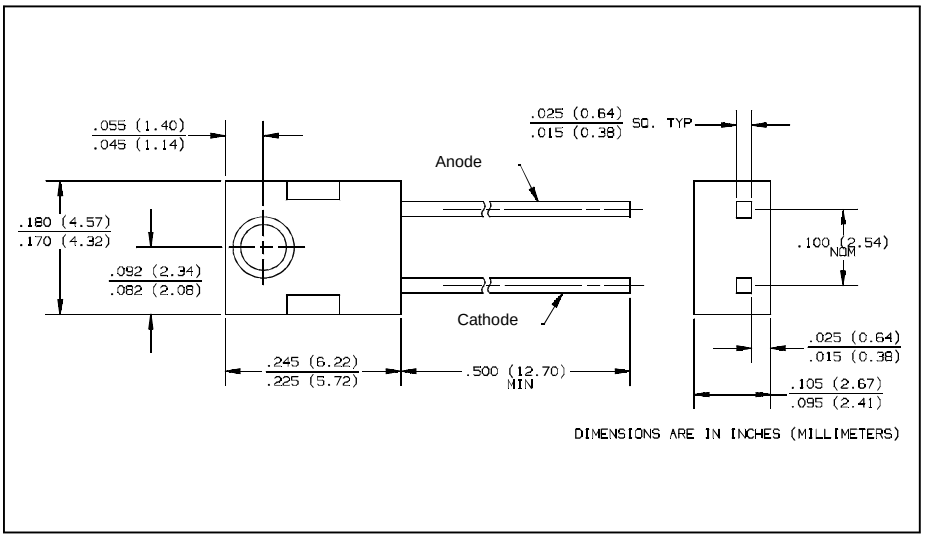
Product Bulletin OP245PS
November 2000

Plastic Point Source Infrared Emitting Diode
Type OP245PS





Features

- Point source irradiance pattern
- Wavelength matched to silicon's peak response
- Fast switching speed
- Side-looking package for space limited applications

Description

The OP245PS is an 850 nm, infrared emltting diode molded in IR transmissive amber-tinted epoxy packages. The side-looking package is for use in PC board mounted slotted switches or as easily mounted interrupt detectors.

The stable V_F vs. Temperature characteristic make them ideal for applications where voltage is limited (such as battery operation).

The low t_r/t_f make them ideal for high speed operations.

Absolute Maximum Ratings (T_A = 25° C unless otherwise noted)

Reverse Voltage . . . . . 2.0 V
Continuous Forward Current . . . . . 50 mA
Peak Forward Current (2 µs pulse width, 0.1% duty cycle) . . . . . 1.0 A
Storage and Operating Temperature Range . . . . . -40° C to +100° C
Lead Soldering Temperature [1/16 inch (1.6mm) from case for 5 sec. with soldering iron] . . . . . 260° C (1)
Power Dissipation . . . . . 100 mW(2)

NOTES:
(1) RMA flux is recommended. Duration can be extended to 10 seconds maximum when flow soldering. A maximum of 20 grams force may be applied to the leads when soldering.
(2) Derate linearly 1.33 mW/°C above 25°.
(3) $E_{e(APT)}$ is a measurement of the average apertured radiant incidence upon a sensing area 0.180" (4.57 mm) in diameter, perpendicular to and centered on the mechanical axis of the lens, and 0.653" (16.6 mm) from the measurement surface. $E_{e(APT)}$ is not necessarily uniform within the measured area.

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Electrical Characteristics (T_A = 25° C unless otherwise noted)

SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITIONS
$E_{e(APT)}$	Apertured Irradiance	.10		.90	mW/cm^2	I_F = 20 mA(3)
V_F	Forward Voltage			1.80	V	I_F = 20 mA
I_R	Reverse Current			20	µA	V_R = 2 V
λp	Wavelength at Peak Emission		850		nm	I_F = 20 mA
B	Spectral Bandwidth Between Half Power Points		50		nm	I_F = 20 mA
θ_{HP}	Emission Angle at Half Power		±18°		Deg.	I_F = 20 mA
t_r	Rise Time		10		ns	$I_{F(PK)}$ = 20 mA
t_f	Fall Time		10		ns	PW = 10 µs, D.C. = 10%

Optek reserves the right to make changes at any time in order to improve design and to supply the best product possible.
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